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Influence of Ammonia on Nitrate Assimilation (1)

Previous reports (2) have shown that burly strip extracts may contain higher ammonia - nitrogen levels than we normally dealt with in the NINO process.

In order to determine the influence of ammonia on the nitrate assimilation, a series of trials were made. In a first set of experiments the batch system was checked, using a well defined medium with the following composition : 0.145% yeast extract without amino acid and ammonium sulfate (DIFCO), 4% glucose, potassium nitrate and ammonium sulfate to make up a total of 1080 ppm nitrogen, pH 5.5.

It could be confirmed, that in a medium containing the same amounts of nitrate - N and ammonia - N no nitrate is assimilated, as long as there is some ammonia left. However, the total nitrogen is eliminated at the same time, as if only nitrate - nitrogen was present.

Trials will continue using different nitrate - nitrogen to ammonia-nitrogen levels, using tobacco extracts and continuous cultivations.

Miscellaneous

- Assistance was given for current pilot plant trials.
- On external request the microbial efficiency of a water filter was tested.

REFERENCES

(1) M.F. Mangilli, Notebook 800801, 11 - 12

(2) N. Lüthi, Strips extraction situation report 29.4.1980

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Source: https://www.industrydocuments.ucsf.edu/docs/ymml0000